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Date Out EFB: 4/22/80

To: Product Manager (Stone PM-23)
TS-767

Through: Dr. Gunter Zweig, Chief
Environmental Fate Branch

From: Review Section No. 1
Environmental Fate Branch

Attached please find the environmental fate review of:

Reg./File No.: 707-RUO, RLN PP9F2158

Chemical: Sodium-5-[2-chloro-4-(trifluoromethyl)-phenoxy]-2-nitrobenzoate Blazer, RH-6201, acifluorfen sodium salt

Type Product: Herbicide

Product Name: Blazer 2S and Blazer 2L

Company Name: Rohm and Haas

Submission Purpose: New chemical, registration on soybeans evaluation of unreviewed cold rotational crop data. Addendum to the January 3, 1980 Blazer review

ZBB Code:

Date in: April 7, 1980

Date Completed 4/22/80

Deferrals To:

☐ Ecological Effects Branch

☐ Residue Chemistry Branch

☐ Toxicology Branch

1. INTRODUCTION

The following was inadvertently not reviewed with the Blazer submission. This material is to be included with the Blazer evaluation of 707-RUO, RLN PP9F2158 dated January 3, 1980.

2.0 DISCUSSION OF DATA

2.1 A Terminal Residue Analytical Method for RH-6201 and its Major Metabolites, technical report no. 34H-78-24, acc. # 097719, tab 14, October 17, 1978.

Plants are extracted with acetonitrile/HCl, partitioned into toluene and evaporated to dryness. The residue is then taken up in solvent and treated with diazomethane. It is then analyzed by GC-EC or further treated with heptafluorobutyric anhydride and then analyzed by GC-EC. See figure 1 following.

Recoveries in soybeans averaged 80-83% at 0.01-0.29 fortifications, and in soil averaged 67-79% at 0.01-1.0 fortification. Recoveries for assorted other crops averaged 96% at 0.01-0.03 fortifications.

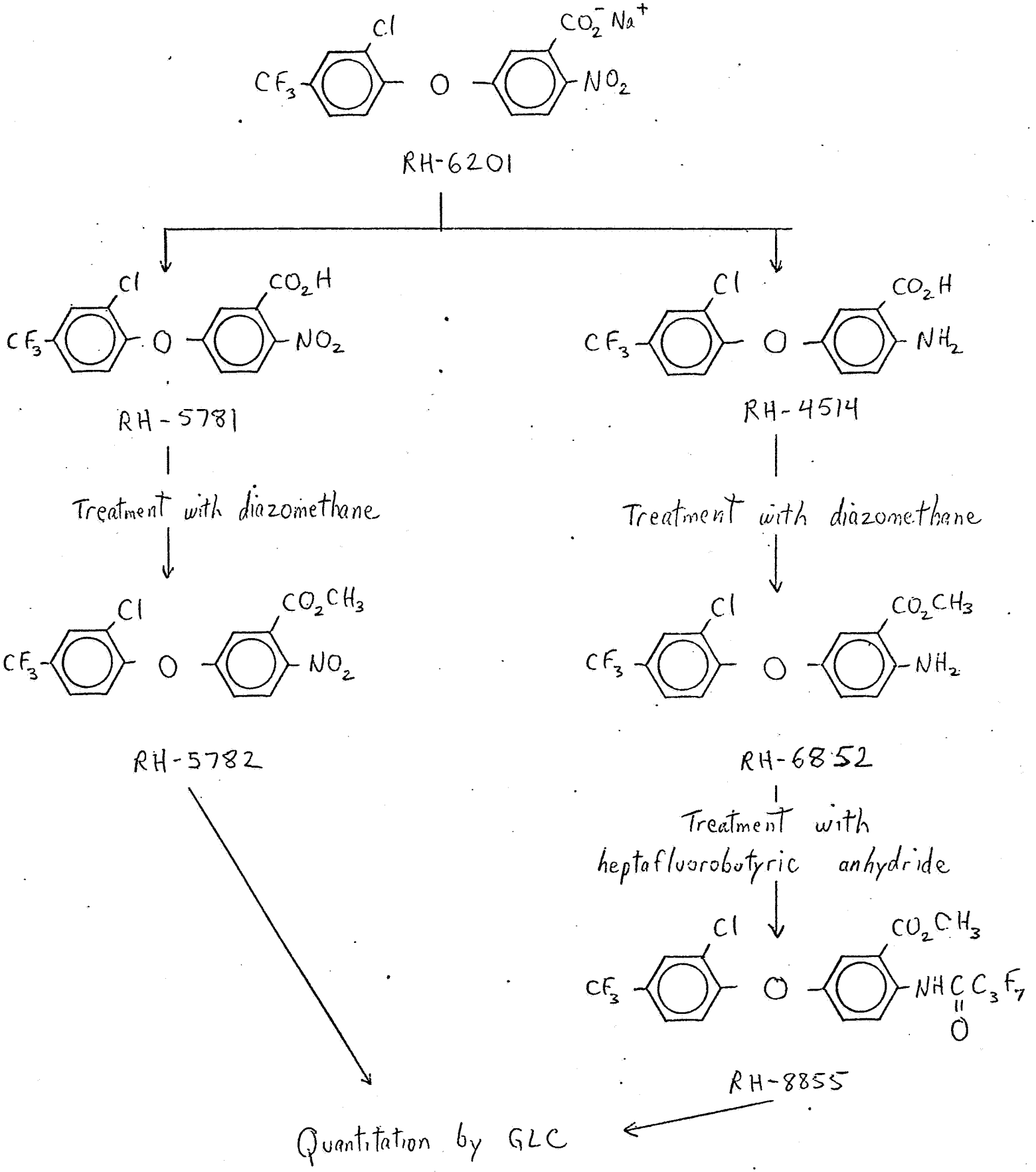
RH-6201
RH-5781
Treatment with diazomethane
RH-4514
Treatment with diazomethane
RH-5782
RH-6852
Treatment with heptafluorobutyric anhydride
RH-8855
Quantitation by GLC

Fig. 1

2.2 Rotation Crop Detailed Analytical Reports November 15, 1978, acc. #097721, tab 18.

Soybeans were planted, grown to maturity and harvested following standard cultural practices. The soybean plots were treated as recommended with Blazer at 1.0 lb i.a./A, harvested and planted to rotational crops as described below. (Note that the treatment dates and the TPI and TSI figures are according to telecon from the PM team (Jim Stone) even though they may disagree with the figures submitted by the registrant. See the acifluorfen file for copy of the April 9-10, 1980 telecon).

Rotational Crop Residues, ppm

State	1 lb a.i./A # Applications	Rotational Crop	Treatment Date	TPI*	TSI*	Crop Component	Acid Method	Amine Method
GA	1	Wheat	July 20, 76	148	350	Grain	NDR	NDR
GA	1	Wheat	July 20, 76	499	700	Grain	NDR	NDR
GA	1	Radish	July 20, 76	669	700	Root	NDR	NDR
GA	2	Radish	June 3, 77	351	382	Root	NDR	NDR
IN	1	Wheat	July 2, 76	105	358	Grain	NDR	NDR
IN	1	Carrot	July 2, 76	302	384	Root	0.02	NDR
PA	1	Beets	April 24, 76	30	121	Root	0.04	NDR
PA	1	Beets	April 24, 76	30	200	Root	NDR	NDR
PA	1	Sorghum	July 6, 76	343	428	Grain***	NDR	NDR
PA	1	Lettuce	July 6, 76	343	374	Head	NDR	NDR
PA	1	Corn	July 6, 76	300	374	Grain	NDR	NDR

* TPI - treatment to planting interval, days

** TSI - treatment to sampling interval, days

*** per verbal communication from PM team stating only the portions normally eaten by humans were sampled and analyzed (See memo of telecon dated April 9-10, 1980 in the acifluorfen file).

5

3.0 CONCLUSIONS/RECOMMENDATIONS

3.1 The cold ^{14}C rotational crop data supports the assumption that some of the ^{14}C residues taken up by the crops in the ^{14}C rotational crop studies are incorporated into the natural plant constituents. However, since the hot and cold studies were not conducted with similar treatment to planting and treatment to sampling intervals, complete comparisons of the data cannot be made.

3.2 The data support the following rotational crop restrictions:

Winter wheat may be planted 4 months after treatment. Only the grain poriton of the plant may be used for food and/or feed purposes.

Radishes may be planted 9 months after treatment with use of only the root portion for food and/or feed purposes.

Sorghum may be planted 12 months after treatment with use of only the grain for food and/or feed purposes.

Lettuce may be planted 12 months after treatment.

Corn may be planted 10 months after treatment with use of only the grain for food and/or feed purposes.

Carrots and beets may be planted 18 months after treatment with use of only the root portion for food and/or feed purposes.

Samuel M. Creeger

Samuel M. Creeger
April 10, 1980
Review Section #1
Environmental Fate Branch/HED